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A report of experiments to investigate (1) the effect of class size on learning and attitudes toward televised instruction, (2) the effect of proctor status on learning and on attitudes toward televised instruction, (3) the effect of opportunities for two-way communication on learning and on attitudes toward televised instruction, and (4) the general pattern of cadet responses toward televised instruction in a specific course.

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A STUDY OF THE EFFECTS OF CLASS SIZE, SUPERVISORY STATUS, AND TWO-WAY COMMUNICATION UPON LEARNING AND ATTITUDES OF AFROTC CADETS IN A CLOSED-CIRCUIT INSTRUCTIONAL TELEVISION PROGRAM

- Thomas C. Capraro, Major, USAF Korea

Statement of the Problem

In a closed-circuit television course of instruction of Air Science II to a group of AFROTC cadets, this study involved three experiments designed to investigate:

1. The effect of class size on learning and attitudes toward televised instruction.
2. The effect of proctor status on learning and on attitudes toward televised instruction.
3. The effect of opportunities for two-way communication on learning and on attitudes toward televised instruction.
4. The general pattern of cadet responses toward televised instruction in an Air Science course.

Experimental Procedures

With respect to the first problem, the experimental population of 369 cadets was randomly distributed into class size groups varying from 19 to 110 in number. After three weeks of instruction on Careers in the Air Force, two types of measurement were used: (1) An objective-type achievement examination, with reliability coefficients for the two forms used at .55 and .57, and (2) Questionnaire items designed to elicit cadet reactions regarding instructional television. The analysis of covariance technique was employed in treating data from the achievement test; the attitude responses were analyzed statistically.

For the second problem, four experimental groups, each containing 31 cadets, were randomly selected from the total population. The proctors for each group varied in status from (1) A commissioned officer, (2) A cadet officer, (3) A peer member chosen at random for each class meeting, to (4) No proctor. After three weeks of instruction on Targets, an achievement test (reliability coefficients for the two forms were .79 and .81) and a reaction item on interest in televised instruction were administered.

Regarding the third problem, four groups, each containing 30 cadets were randomly selected from the total population. Two rooms, seating the experimental groups, contained two-way microphones; two rooms, seating the control groups, were not equipped with microphones. Question-Answer periods were incorporated into the lessons telecast during which time cadets from the talk-back rooms could question the instructors in the studio. After this seven-week unit of instruction on Weapons two types of measures were used to evaluate achievement and attitude, (1) An objective-type examination on Weapons with reliability coefficients for the two forms at .71 and .74, and (2) Attitude scales prepared to elicit reactions toward two-way communication as well as general reactions toward televised instruction.

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In problem four, for those cadets on whom complete attitude data were available in the above experiments, a study of trends of reaction toward televised instruction was made. Cadet selections made on the like to dislike continuum of choice and the interesting to less interesting continuum of choice were shown graphically and analyzed statistically for differences.

Findings

1. Variations in class size did not significantly influence information learning or cadet reaction toward televised instruction.

2. There was no significant difference in the learning or in cadet reaction to the use of television when a variety of proctor personnel was used in the Viewing Rooms.

3. No significant difference in the learning or in cadet attitudes were observed when opportunities for two-way communication were provided in the Viewing Rooms.

4. In each of the experiments, a descriptive analysis of the data indicated that the cadets demonstrated a positive attitude toward this television course. In the evaluation employing matched responses over intervals up to five months, the cadets not only retained this basic pattern but also manifested a significant shift toward the positive end of the continuum of choices available in the attitude items used.

General Conclusions

The findings of this study seem to support the following conclusions, limited to the course taught, the subjects used, and the qualifications imposed by the experimental design:

1. There is no basis in the evidence found that class size affects informational learning or attitudes toward televised instruction.

2. There is no basis in the evidence found that the status or even the presence of the proctor affects informational learning or attitudes toward televised instruction.

3. There is no basis in the evidence found that opportunities for asking questions affects informational learning or attitudes toward televised instruction.

4. On the basis of the evidence found, the cadets indicated a consistently favorable reaction to the television course. Cadet estimates of interest in televised instruction of Air Science II as compared to conventional instruction of Air Science II manifested a positive general pattern of reaction toward this method of instruction.